

in the year 1578, and yet has never been seen here except cultivated as a curiosity in gardens, the seed being always brought from China. It must be considered as a species confined originally to the older continents and not known on this side of the Atlantic, until after the discoveries of Columbus and others. I think that I have seen it growing in a quasi indigenous state on the road sides in Europe. No tobacco has ever been seen growing without cultivation in the United States. This circumstance taking place with most of our cultivated vegetables is a certain proof of their having been imported from some other country.

As has been observed before, these three species will mix together in every possible degree, hence the great number of species which appear in our books. If we take the trouble to analyse these, it can easily be perceived, that they have been produced by hybrid intermixtures, unless fertile hybrids are to be considered as valid species. All those which resemble the *N. tabacum*, but with narrower leaves than common, or in any degree possessed of the peculiar characteristics of the *N. fruticosa*, have been produced by the mixture with this species, and all those with leaves more or less petiolate, whether lanceolate or ovate, as formed by a combination of *N. tabacum*, *N. fruticosa* and *N. rustica*. It is remarkable what strange appearances these will put on; every possible variation of the principal forms and every gradation of position will be found, all, however, easily reducible to the three original types.

Notes on COLUBER CALLIGASTER of Say, and a description of new species of Serpents in the collection of the North Western University of Evanston, Ill.*

BY R. KENNICOTT.

EUTÆNIA SACKENII Kennicott.

Sp. ch.—Very slender; tail forming one third of the total length. Crown more elevated and convex anteriorly than in *E. saurita*. Nineteen dorsal rows of scales. Color olive black above, not lighter below the lateral stripe. Lateral stripe greenish yellow, very narrow on the third and fourth lateral rows. No dorsal stripe. Abdomen uniform greenish.

In form, this closely resembles *E. saurita*, but is at once distinguished by the absence of the dorsal stripe, of which there is no trace, except for about a half inch behind the head. The color of the upper parts is also much darker, and the first two rows of scales below the dorsal stripe are not lighter than above it. Florida.—Baron Osten Sacken.

SCOTOPHIS CALLIGASTER.

Coluber calligaster Say, in Long's Exped.

Sp. ch.—Head very narrow, elongated, much wider behind; nose very obtuse, the whole outline subquadrangular; much elevated anteriorly, as high as wide before the eyes, flattened and rather depressed on the occiput. Eye large. Vertical plate narrow, much longer than wide, tapering but little behind. Superciliaries very narrow. Postfrontals and loreal large. Twenty-seven dorsal rows of scales, only the central carinated, and these very faintly. Ground color olivaceous white; a dorsal series of transverse brown blotches separated by narrower intervals than in *S. Emoryi*, B. & G., with two smaller series on each side. Temporal light stripe, narrower than in *S. Emoryi*. A brown blotch under the eye, and another on the second and third upper labials. Labials not margined with black.

This is very closely allied to *S. Emoryi*, from which it differs in having the head narrower posteriorly, with a more obtuse snout, smaller vertical, narrower

* Specimens of these species are also in the Museum of the Smithsonian Institution, Washington.

superciliaries, larger loreal, narrower intervals between the dorsal blotches, which are themselves less rounded, narrower light temporal stripe, etc. From *S. guttatus*, it may be readily distinguished by the color, transverse dorsal blotches, etc.; and from the other species of the genus it differs in much the same points with *S. Emoryi*. There can be no hesitation in referring this species to the *Coluber calligaster* of Say. The very faint carinations of the central dorsal scales might easily be overlooked. Like *S. Emoryi*, it bears a strong general resemblance to *Ophibolus eximius*, to which species Say's description has been referred by Dr. Holbrook, and others; but from this and *O. Evansii*, it may at once be distinguished by the large eye, elongated head, divided postabdominal scutella, carinated scales, and other generic characters.

Hyatt, Anderson Co., Kansas, Mr. Samuel Arny.

OPHIBOLUS EVANSII Kennicott.

Ophibolus Evansii Kennicott, Rep. of Mex. Boundary Survey.

Sp. ch.—Light olivaceous brown or gray, with a dorsal series of about sixty subquadrangular emarginate dark chestnut brown blotches from head to tip of tail, and two smaller lateral series on each side. Dorsal scales in twenty-five rows.

This is most nearly allied to *O. eximius*, but differs strikingly in the number of dorsal rows of scales,—twenty-five instead of twenty-one; also in having a more elongated, narrow and elevated head, narrower snout, anterior and posterior emarginations in the dorsal blotches, etc.

Prairies of Central Illinois, S. H. Roots, C. Mills, S. W. Arnold.

The species is dedicated to Prof. J. Evans, to whose interest in the investigation of the zoology of the north west, the N. W. University is principally indebted for the large collections of animals made under its auspices.

DIADOPHIS ARNYI Kennicott.

Sp. ch.—Form slender, though less so than in *D. docilis*. Body above uniform leaden black, the crown scarcely darker; abdomen yellow, thickly and irregularly spotted with black, the spots more numerous than in *D. docilis*, and extending to some distance behind the anus; head beneath thickly mottled with black spots of much smaller size than those on the abdomen. A narrow light yellow occipital ring, one to one and a half scales wide. Dorsal scales in seventeen rows.

Resembles *D. docilis*, from which it will be distinguished by the color, shorter body, narrower head, spots under the tail, and narrower occipital ring; from *D. regalis* by its occipital ring, and from the other species by the number of dorsal rows.

Hyatt, Anderson Co., Kansas.—Samuel Arny.

VIRGINIA ELEGANS Kennicott.

Sp. ch.—Resembles *V. valeria*; vertical and occipital plates narrower. Dorsal scales very narrow and elongated, much more so than in *V. valeria*, disposed in 17 rows. Color uniform light olivaceous brown above; dull yellowish-white beneath.

Readily distinguished from the nearly allied *V. valeria* by the narrower dorsal scales in 17 rows instead of 15 as in that species.

Heavily timbered regions of southern Illinois.—Dr. Hugh McVean, J. W. Waugh.

CELUTA VERMIS Kennicott.

Sp. ch.—Larger than *C. amœna* and *C. Helena*. Two pairs of frontal plates. Color above lustrous purplish black, much darker than in *C. amœna*. Abdomen pale yellowish flesh color, (probably brighter in life); this color extending to the third lateral row of dorsal scales.

Though possessing the general form of *C. amœna*, this differs strikingly in the 1859.]

larger size, darker color of the upper parts, and the extension of the flesh color of the abdomen over to the third lateral row of scales; in *C. amœna* this color extends only to the second row.

Missouri,—Dr. P. R. Hoy.

CELUTA HELENÆ Kennicott.

Sp. ch.—Snout shorter and narrower than in *C. amœna*. A single pair of frontal plates. Color above lustrous chestnut brown; beneath pale yellowish, (flesh color in life) color of the abdomen extending to second lateral row of dorsal scales.

Readily distinguishable by the suppression of the anterior frontals.

Monticello, Miss., Miss Helen Teunison; Southern Illinois (abundant in the woods), Dr. H. McVean, Robt. Gow, C. Thomas, L. W. Ashley.

ICHTHYOLOGICAL NOTICES.

BY CHARLES GIRARD, M. D.

XXVIII. The genus *Hadropterus* is represented in the waters of the Potomac River by a species, the average size of which is three inches in total length. Its body is subfusiform, compressed, thickest anteriorly and tapering gradually towards the peduncle of the tail, which is slightly contracted. The head enters four times and a half in the total length. The posterior extremity of the maxillar bone corresponds to a vertical line intersecting the anterior rim of the orbit. The eye is subcircular and well developed; its diameter entering about four times in the length of the side of the head; once in advance of its anterior rim. The first dorsal fin is lower and much longer than the second, to which it is contiguous. The posterior margin of the caudal fin is subrescensitic. The anal fin is situated exactly opposite the second dorsal and corresponds to it in extent, but differs from it by its external margin, which is more convex, giving the entire fin a more ovate outline. The ventrals and the pectorals are moderate sized, the former being subanceolar, the latter subelliptical in their outline. The rays are:—D xiv; 14; A ii, 10; C 6, 1, 8, 8, 1, 5; V i, 5; P 14.—The scales are small, longer than deep and very finely pectinated upon their posterior margin. The lateral line constitutes the eighth row of scales, counted from the first dorsal fin. The ground color is yellowish brown; the dorsal region being maculated with chestnut brown; whilst a series of rather large, rounded, blackish blotches occupy the middle of the flanks; a black vertical streak intersects the orbit. The second dorsal and the caudal fins are transversely barred with blackish. The other fins are unicolor, except the first dorsal, which exhibits small black spots close to the rays, below the middle of their height, more conspicuous anteriorly than posteriorly.

The species here referred to we will record under the name of *H. maculatus*; the specimens examined were caught in an eastern tributary of the Potomac River, in Anne Arundel Co. Md.

XXIX. Another species of *Hadropterus* was collected in the Arkansas River, near Fort Smith, by Dr. George G. Shumard. We propose to call it *H. shumardi*. It will always be easy to distinguish it from its congeners by the great development of the anal fin, which is much larger than the second dorsal and projects much further back. The body is elongated, rather slender, although tapering but little backwards; its entire length is about two inches and a quarter, in which the head enters four times and a half. The first dorsal fin is longer than the second and nearly as high.—D xi; 13; A ii, 11; C 6, 1, 8, 7, 1, 5; V i, 5; P 12.—The scales are rather small. The color is somewhat altered by the preserving fluid: an olivaceous tint appears to have existed over the dorsal region with darker spots or dots, whilst the abdominal region is rather whitish. The caudal fin exhibits transverse dark lines, and the first dorsal a black spot at its posterior portion; a dark vertical streak intersects also the orbit.

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